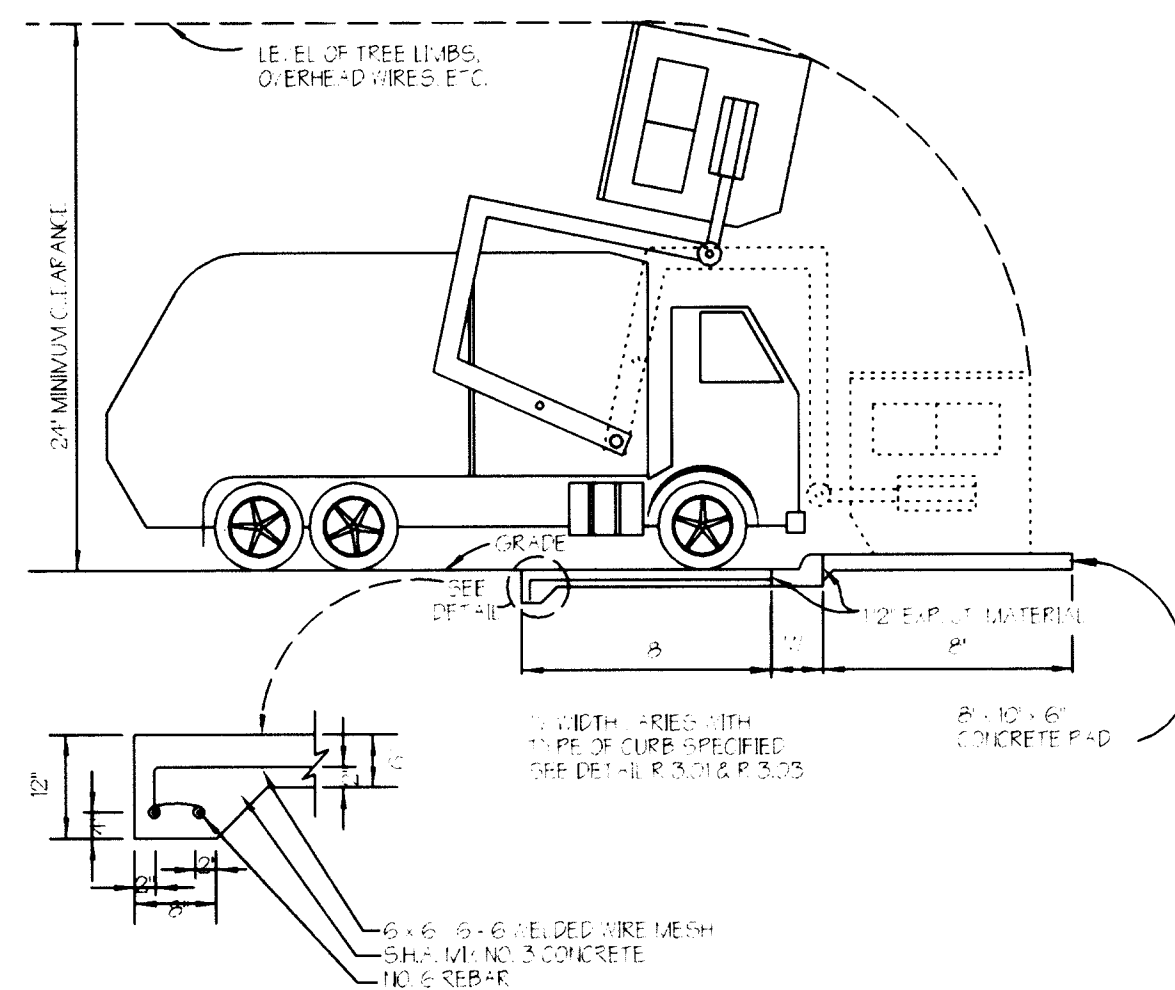


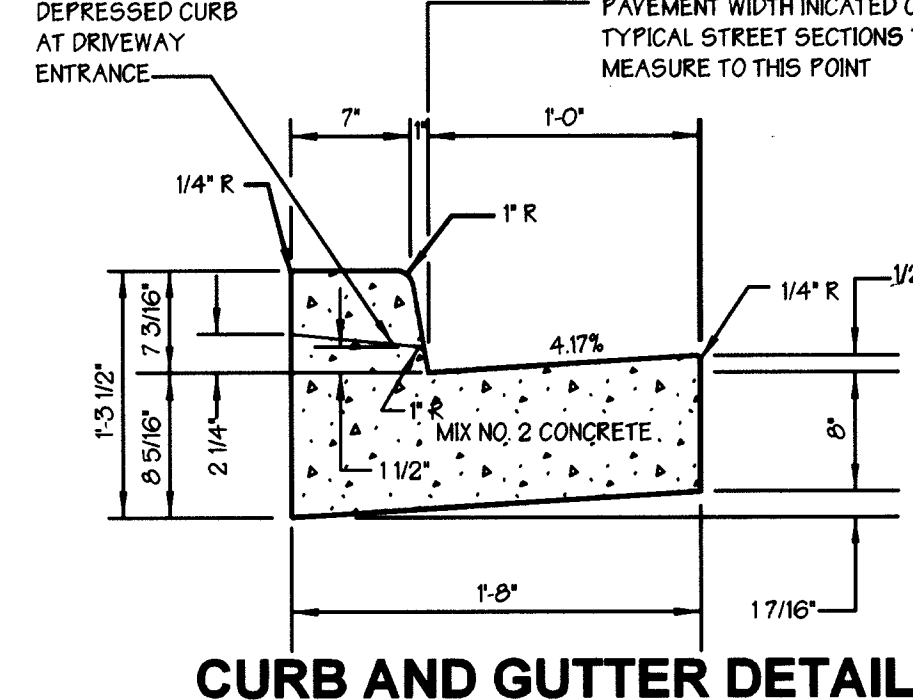
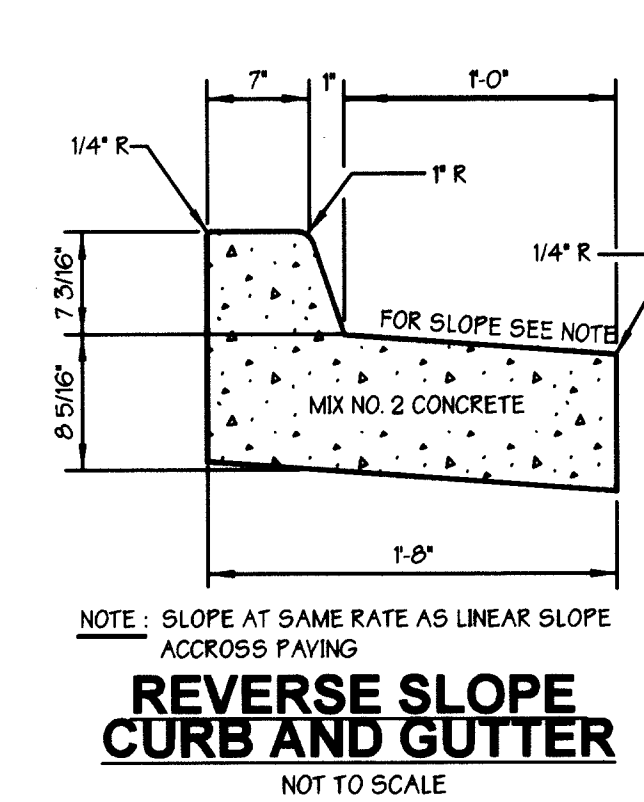
Dumpster Enclosure Detail
NOT TO SCALE



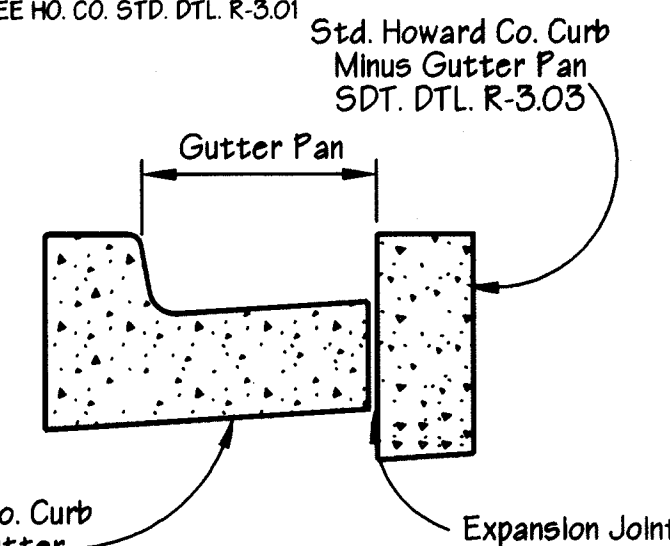
Solid Waste Service Pad
NOT TO SCALE



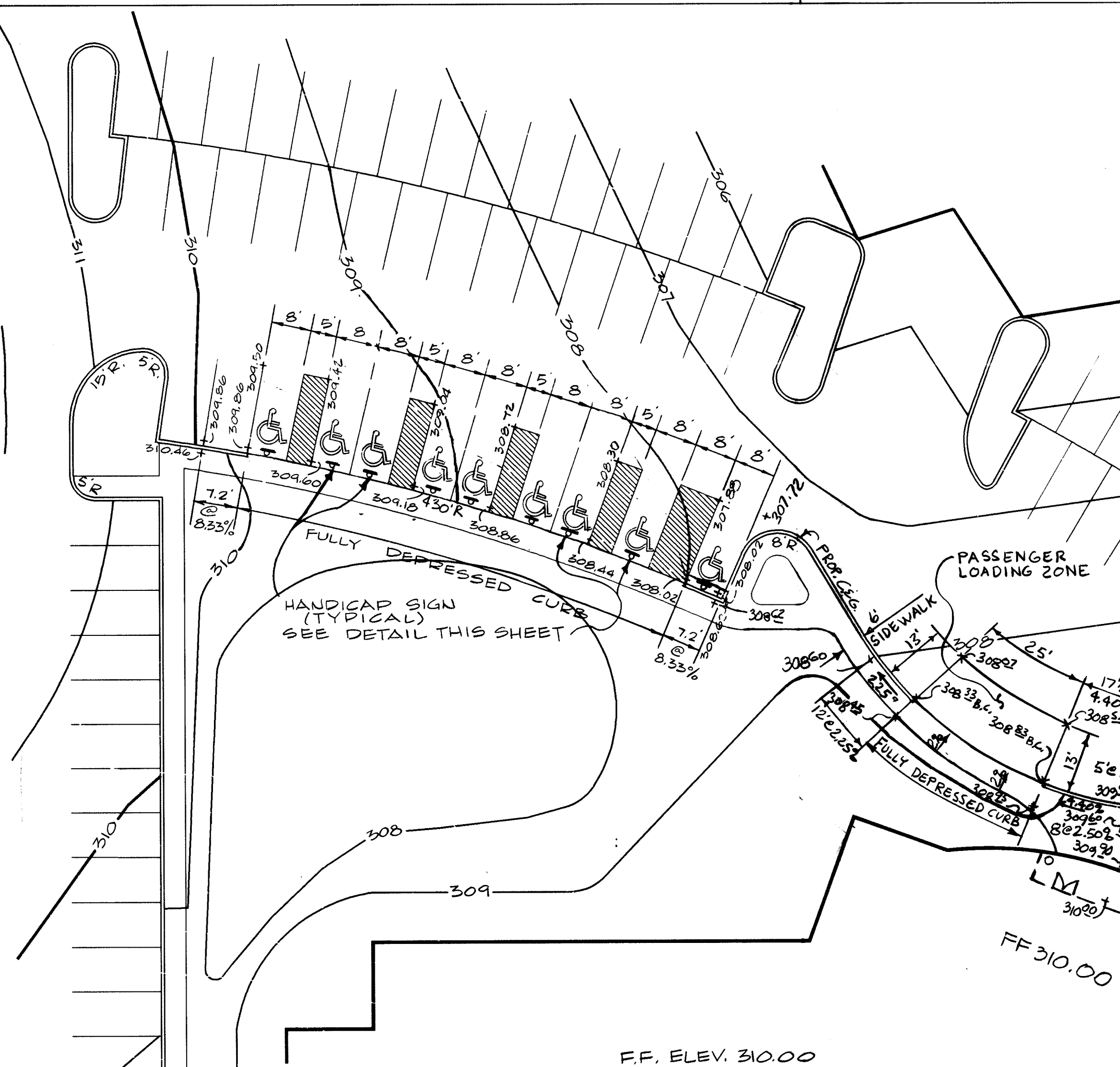
Handicapped Parking Sign Detail



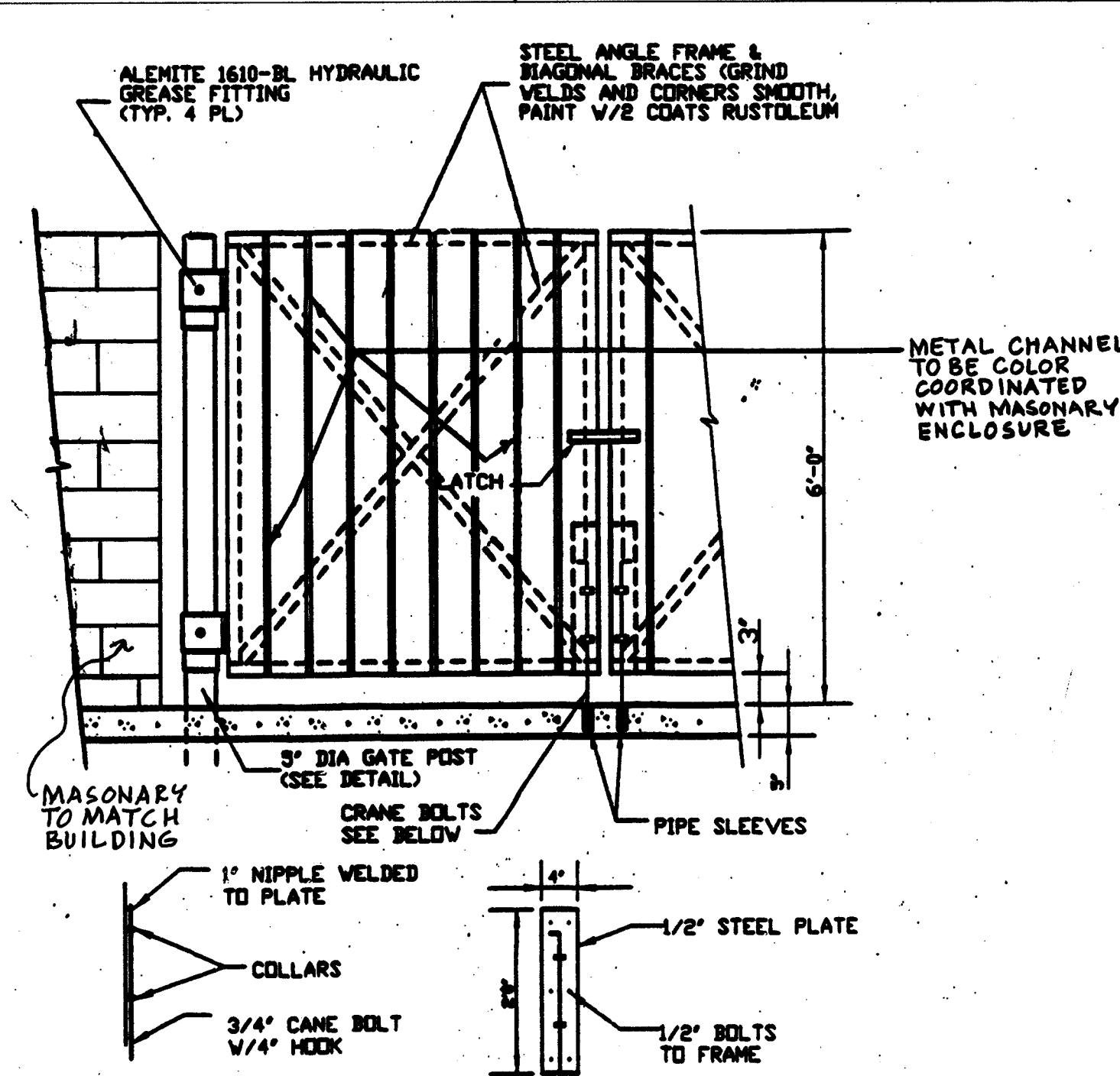
Curb and Gutter Detail
NOT TO SCALE



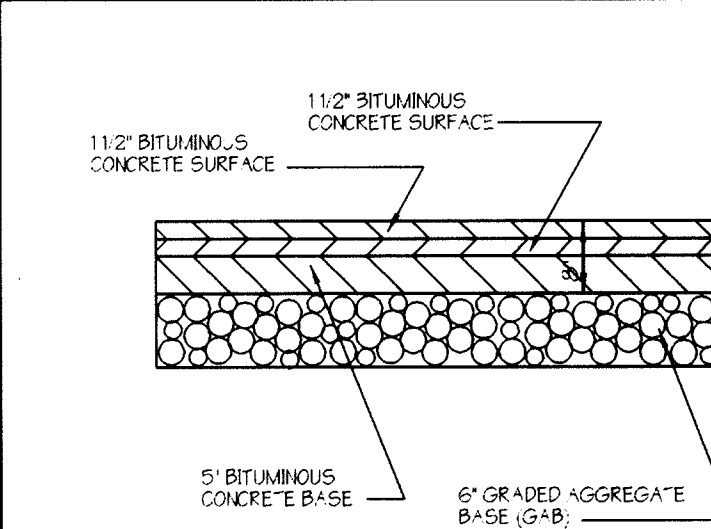
Curb Opening Detail
NOT TO SCALE



Handicapped Parking Detail
SCALE: 1" = 20'

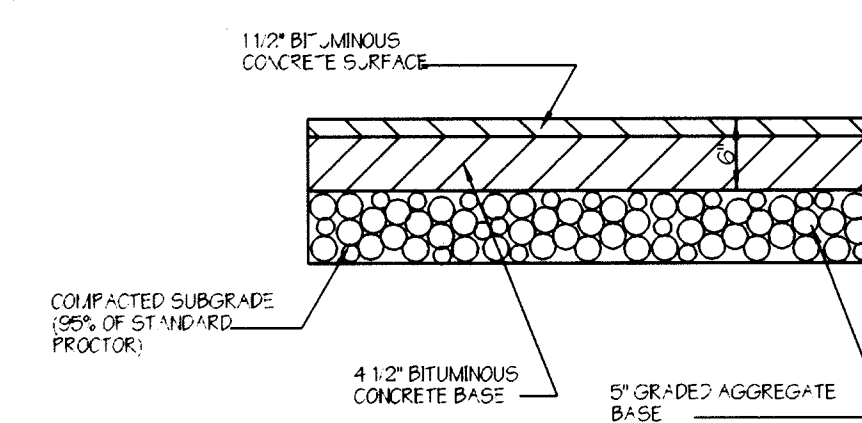


Trash Enclosure Gate & Mounting Details
SCALE: 1/2" = 1'-0"

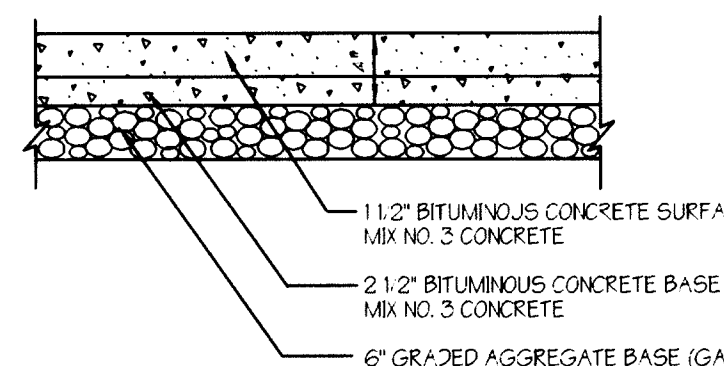


P-5 Pavement Section
NOT TO SCALE
AT COLUMBIA GATEWAY DRIVE
DECELERATION LANE

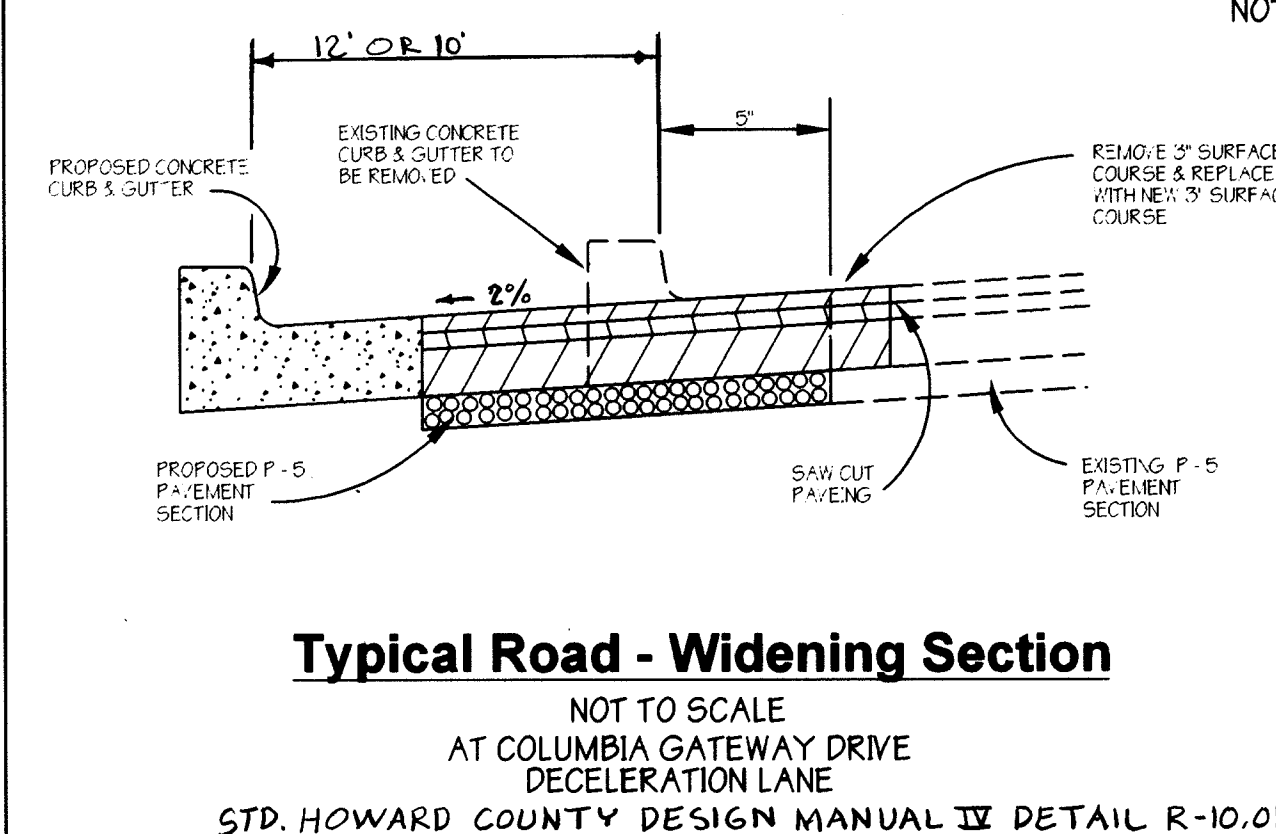
- NOTES:**
1. ALL PAVING TO BE P-2 PAVING UNLESS OTHERWISE NOTED.
 2. ALL RADII FOR CONCRETE CURB AND GUTTER TO BE 8' UNLESS OTHERWISE NOTED.



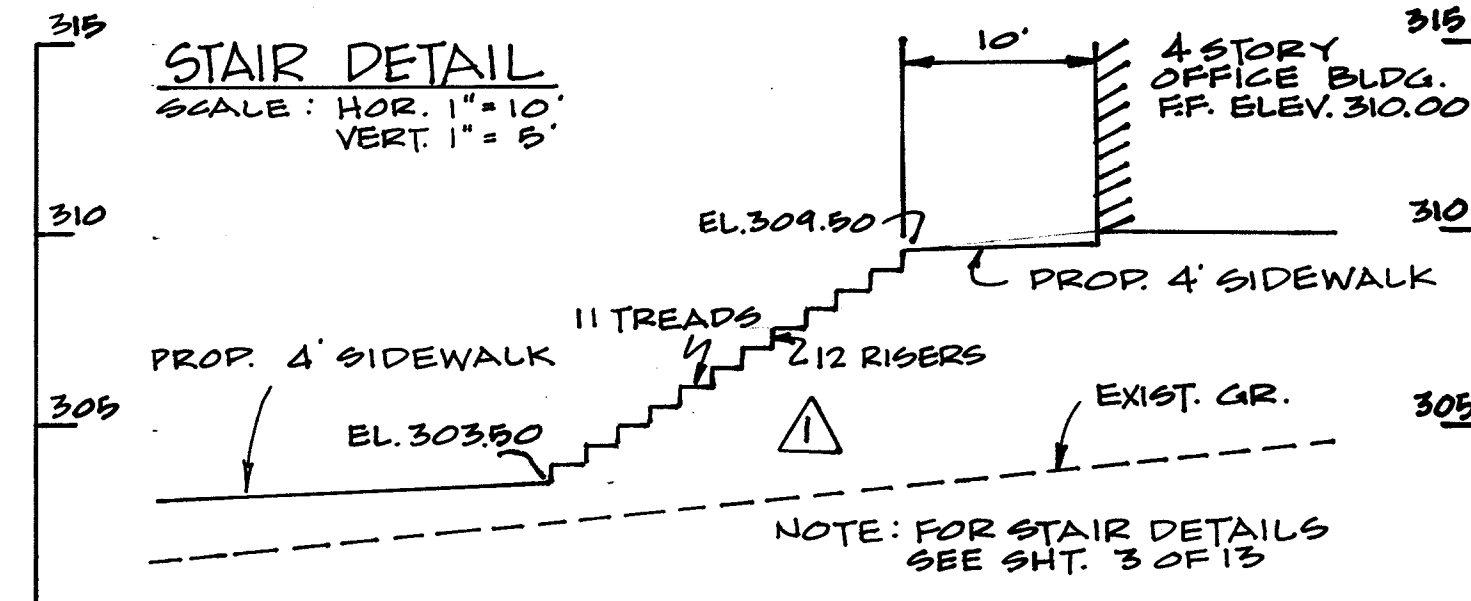
P-3 Pavement Section
NOT TO SCALE



P-2 Pavement Section
NOT TO SCALE

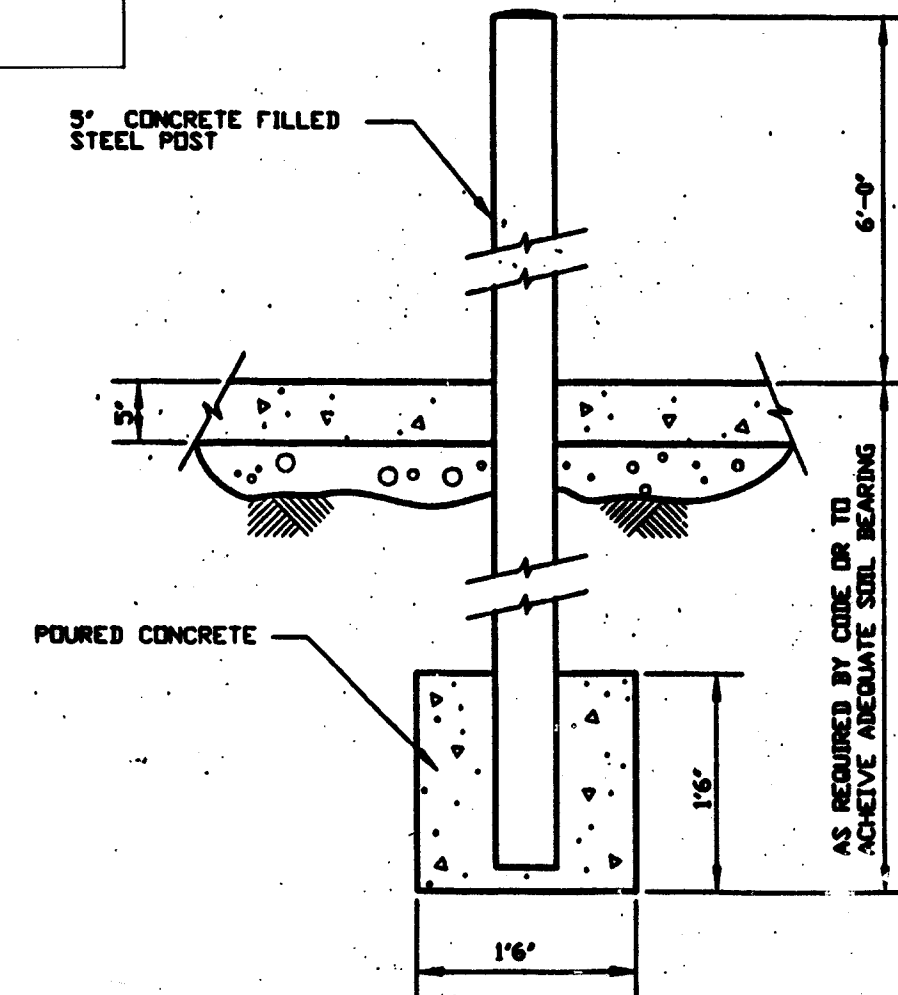


Typical Road - Widening Section
NOT TO SCALE
AT COLUMBIA GATEWAY DRIVE
DECELERATION LANE
STD. HOWARD COUNTY DESIGN MANUAL II DETAIL R-10.01



STAIR DETAIL
SCALE: HOR. 1" = 10', VERT. 1" = 6'
NOTE: FOR STAIR DETAILS SEE SHT. 3 OF 13

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



Trash Enclosure Gate Post
SCALE: 1" = 1'-0"

OWNER / DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.
REVISIONS
10/24/98 - GWS ADDED STAIR DETAIL
7/15/99 - G.W.S. ADDED SCREEN WALL DETAIL

SITE DETAILS
COLUMBIA GATEWAY PARCEL S-20
COLUMBIA GATEWAY WOODLANDS II
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND SHT. 2 OF 13
SCALE: As Shown
DATE: MAY 01, 1998

APPROVED: HOWARD SOIL CONSERVATION DISTRICT		DATE
PLAN NUMBER		DATE
Reviewed for the Howard Conservation District and meets technical requirements.		DATE
NATURAL RESOURCES CONSERVATION SERVICE		DATE
APPROVED: Howard County Department of Planning and Zoning		DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
DIRECTOR		DATE
ADDRESS CHART		
PARCEL NO.	STREET ADDRESS	
S-20	6940 COLUMBIA GATEWAY DRIVE	
SUBDIVISION NAME		SECTION NAME
COLUMBIA GATEWAY		N/A
PARCEL #		S-20
PLAT #	BLOCK #	ZONE
12802	1	M-1
WATER CODE		ELECT. DIST.
E06		6
SEWER CODE		CENSUS TRACT
5333000		6067.03

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard Practice MD-379. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or the representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

MATERIAL - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment and out off trench shall conform to Unified Soil Classification GC, SC, CH or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in a maximum 8" thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

COMPACTION - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that the water can be squeezed out.

Minimum required density shall not be less than 95% of maximum dry density with moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99. See also SHE. No. 10 of 15.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure.

PIPE CONDUITS

All pipes shall be circular in cross section.

REINFORCED CONCRETE PIPE

All the following criteria shall apply for reinforced concrete pipe.

- Materials** - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.
- Bedding** - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
- Laying Pipe** - Bell and spigot pipe shall be placed with the bell and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

PERFORATED PIPE

Bituminous coated corrugated metal pipe (BCOMP) shall conform to the requirements of AASHTO M56 (pipe should be specified to be fully bituminous coated in accordance with AASHTO M56). Perforated pipe is TYPE III. Pipe shall have CLASS 2 perforations 3/8" in diameter.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 910 (Portland Cement Concrete Mixture), Mix No. 3.

REINFORCING STEEL IN CONCRETE STRUCTURES

Reinforcing steel shall be ASTM A 615, Grade 60. Steel angles and anchor bars shall be ASTM 1-36.

ROCK RIP-RAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or other works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation as such locations which may require draining the water to pumps from which water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spill and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Stormwater management facility will be stabilized with permanent slope seeding as follows:

- Seedbed Preparation** - Loosen upper 3 inches of soil by raking, disking or other acceptable means before seeding.
- Soil Amendments** - apply 2 tons per acre Dolomitic Limestone (92 lbs./1000 sq. ft.), 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.), and 400 lbs. per acre of 30-0-0 Ureaform Fertilizer (92 lbs./1000 sq. ft.). Harrow or disc lime and fertilizer into upper 3 inches of soil. At time of seeding, apply 400 lbs. (92 lbs./1000 sq. ft.) of 30-0-0 Ureaform Fertilizer and 500 lbs. per acre (115 lbs./1000 sq. ft.) of 10-0-0 Fertilizer.
- Seeding** - For the period March 1 through April 30 seed with 40 lbs. per acre Kentucky 31 Tall Fescue, and 15 lbs. per acre inoculated Crown Vetch. For the period May 1 through July 31 seed with 60 lbs. per acre Kentucky 31 Tall Fescue and 2 lbs. per acre inoculated Weeping Lovegrass. For the period August 1 through October 15 seed with 40 lbs. per acre Kentucky 31 Tall Fescue, and 20 lbs. per acre inoculated Intermediate Sericea Lemnecade. For the period October 16 through February 28 protect the site by Option (1); 2 tons per acre of well anchored straw. For the period May 1 through February 28 inoculated Crown Vetch shall be applied during the subsequent period of March 1 through April 30 at the rate of 15 lbs. per acre.
- Mulching** - apply 15 to 2 tons per acre of un-rotted small grain straw immediately after seeding. Anchor mulch immediately after application using 210 gallons per acre of emulsified asphalt. On flat areas of slope 8 feet or higher, use 340 gallons per acre of anchoring.
- Maintenance** - inspect all seeded areas and make needed repairs, replacements and re-seeding.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

PERMANENT SLOPE SEEDING

After spreading 4" topsoil, seed with a mixture of 30% inoculated Crown Vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs./acre; 10-20-20 fertilizer shall be applied at a rate of 25 lbs./1000 sq. ft.; lime at a rate of 92 lbs./1000 sq. ft.; mulch area with unweathered small grain straw at a rate of 15 tons/acre; anchor with a rapid curing asphalt (RC-70, R-250 or RC-800 at a rate of 0.1 gal./sq. ft.).

FILTER CLOTH

Filter cloth shall meet or exceed the requirements in Section 2025-5 of the Baltimore County Standard Specifications and Details for Construction. Durable filter fabrics for drainage purposes are not limited to Miraf 1405, DuPont TYFAC No. 3541 or 3401.

Filter cloth shall be protected from puncturing or tearing. Any damage other than an occasional small hole shall be repaired by placing another small piece of filter cloth over the damaged area or by replacing the cloth section. All overlap shall be a minimum of one foot.

GABIONS

Gabions shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 912 and must be CL IV, PVC coated.

OUTFALL PROTECTION

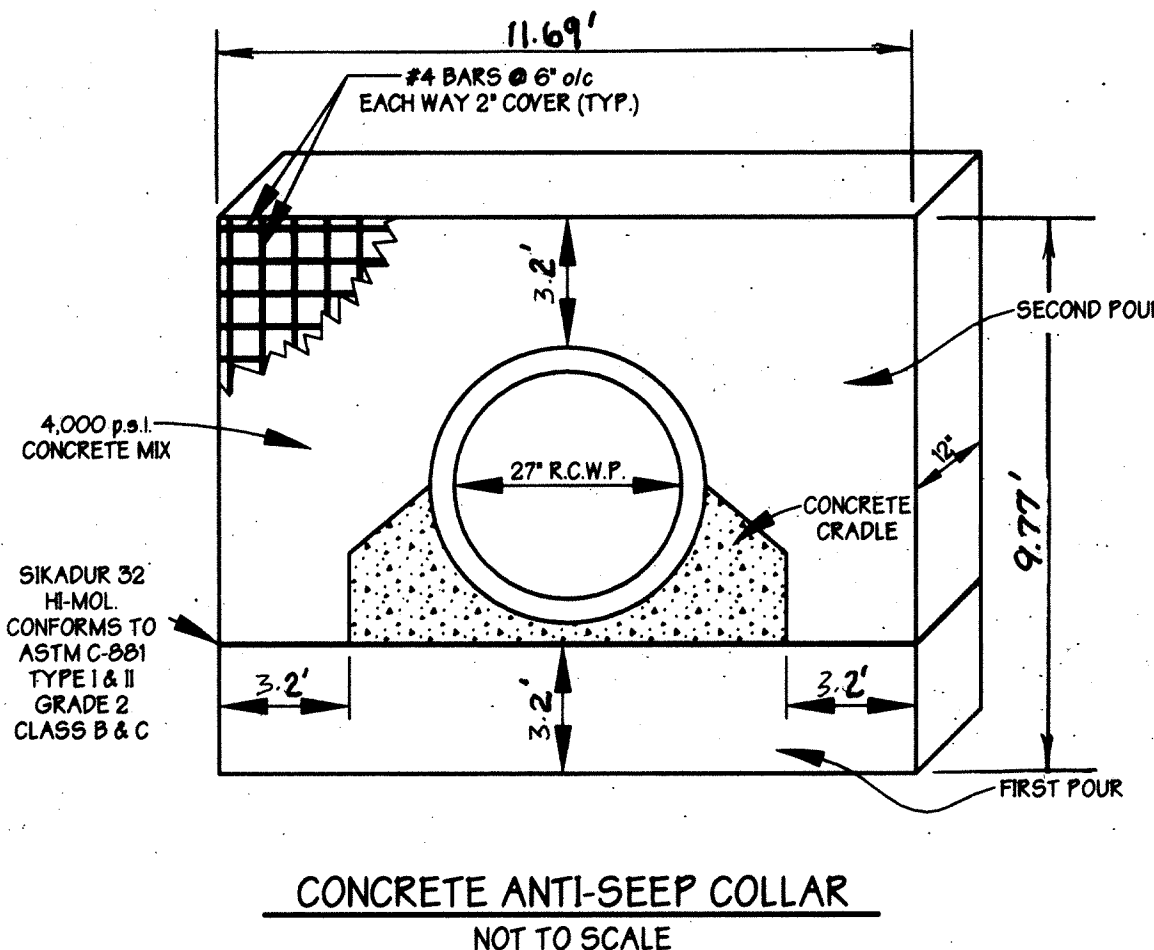
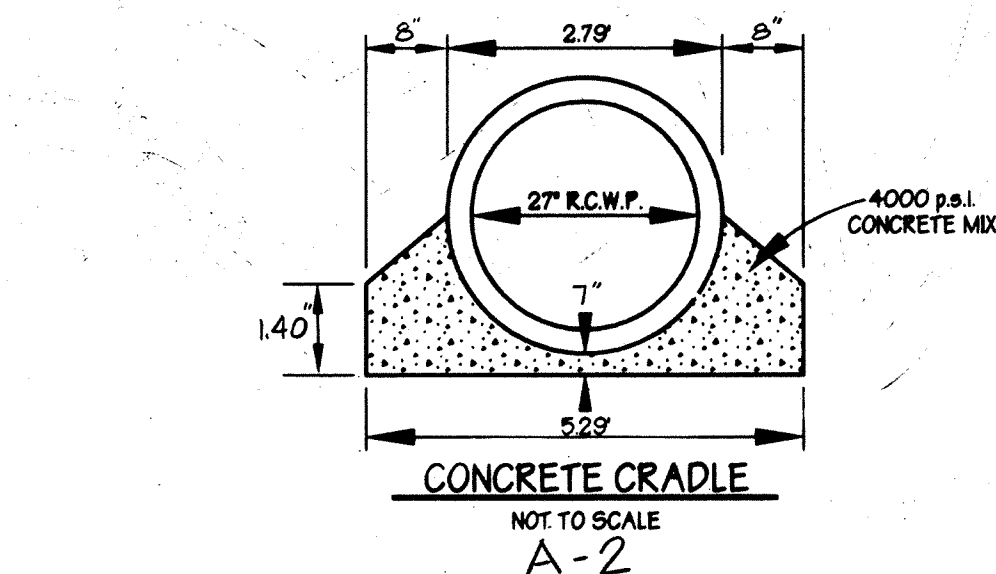
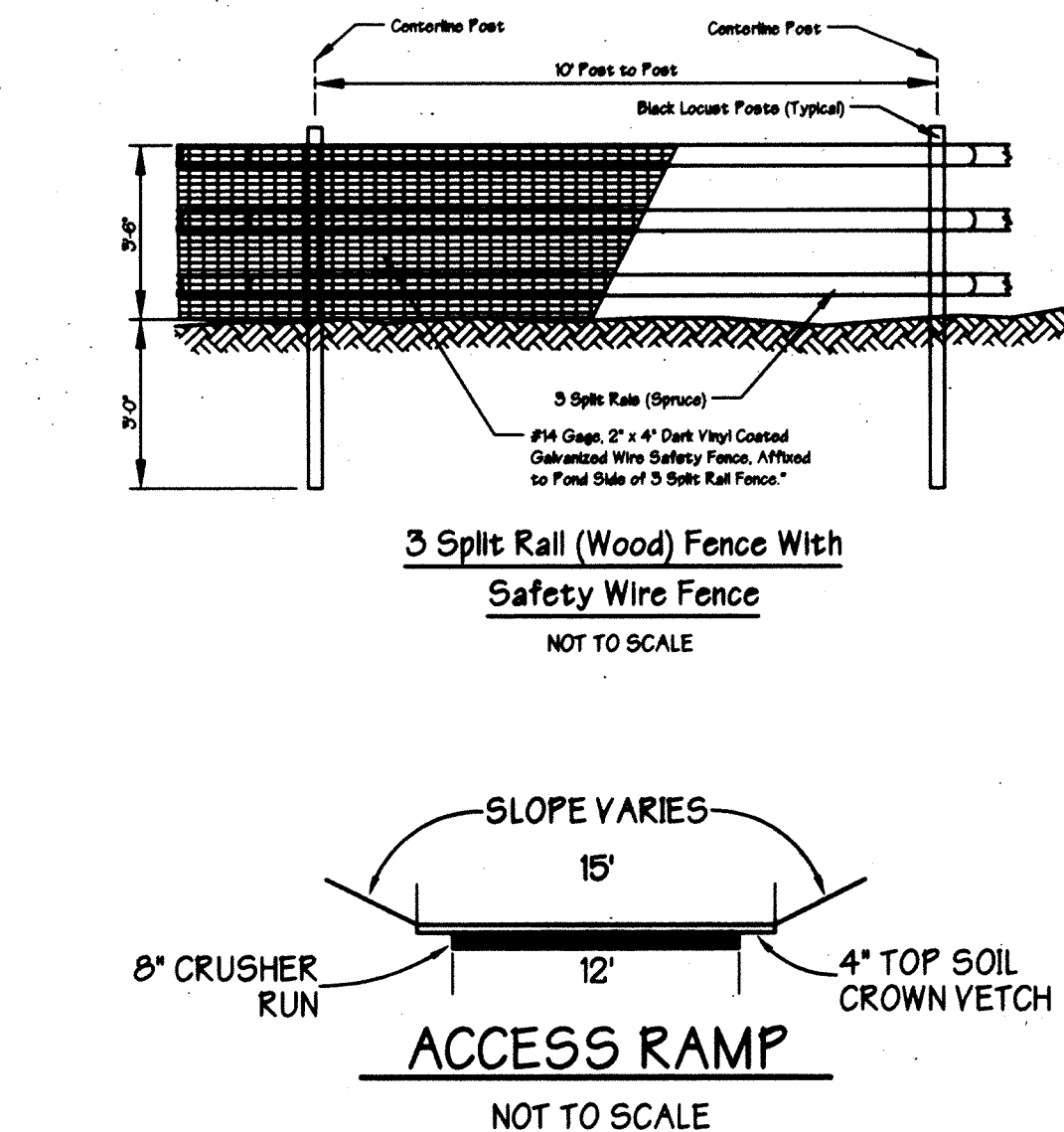
Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another, with the smaller rocks filling the voids between the larger rocks. Stone for outfalls may be placed by equipment. Riprap or gabion outlets shall be constructed to full course thickness in one operation and in such a manner as to avoid any displacement of underlying materials. The contractor shall avoid damage to the filter blanket or cloth during placement of riprap. Hand placement shall be required as needed to prevent damage to the permanent works. Filter cloth shall be placed under all riprap and gabions.

FENCE

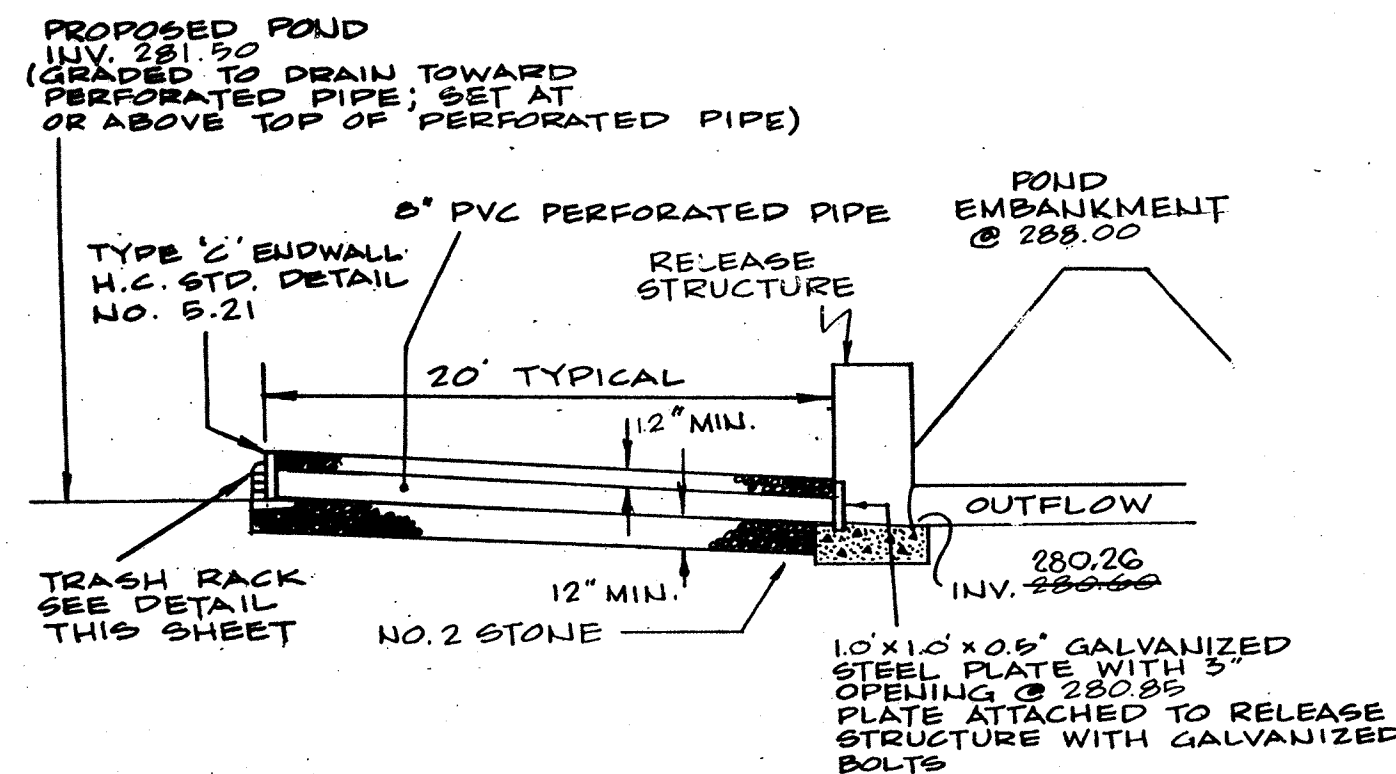
Construct fencing in accordance with the State Highway Administration standard details 690.01 and 690.02. Use specifications for a 6' fence, substituting 42" fabric and 6' line posts. Construct the gate in accordance with the S.H.A. standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M16174. Dark vinyl coating is required for the fence posts and wire fabric in accordance with the landscape manual adopted by resolution 56-90, October 1, 1990. *3 Split rail (wood) fence is optional.

CUT-OFF TRENCH - THE CUT-OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

IMPERVIOUS CORE - THE CORE SHALL BE FILLED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE FILL SHALL BE GOVERNED BY THE EQUIPMENT USED, WITH MINIMUM WIDTH BEING FOUR FEET. THE TOP WIDTH SHALL BE SHOWN ON THE PLAN. THE SIDE SLOPES OF THE FILL SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS OR HAND TAMPERS TO ASSURE MAX. PERMEABILITY. THE CORE TRENCH SHALL BE KEPT DRY DURING INSTALLATION.

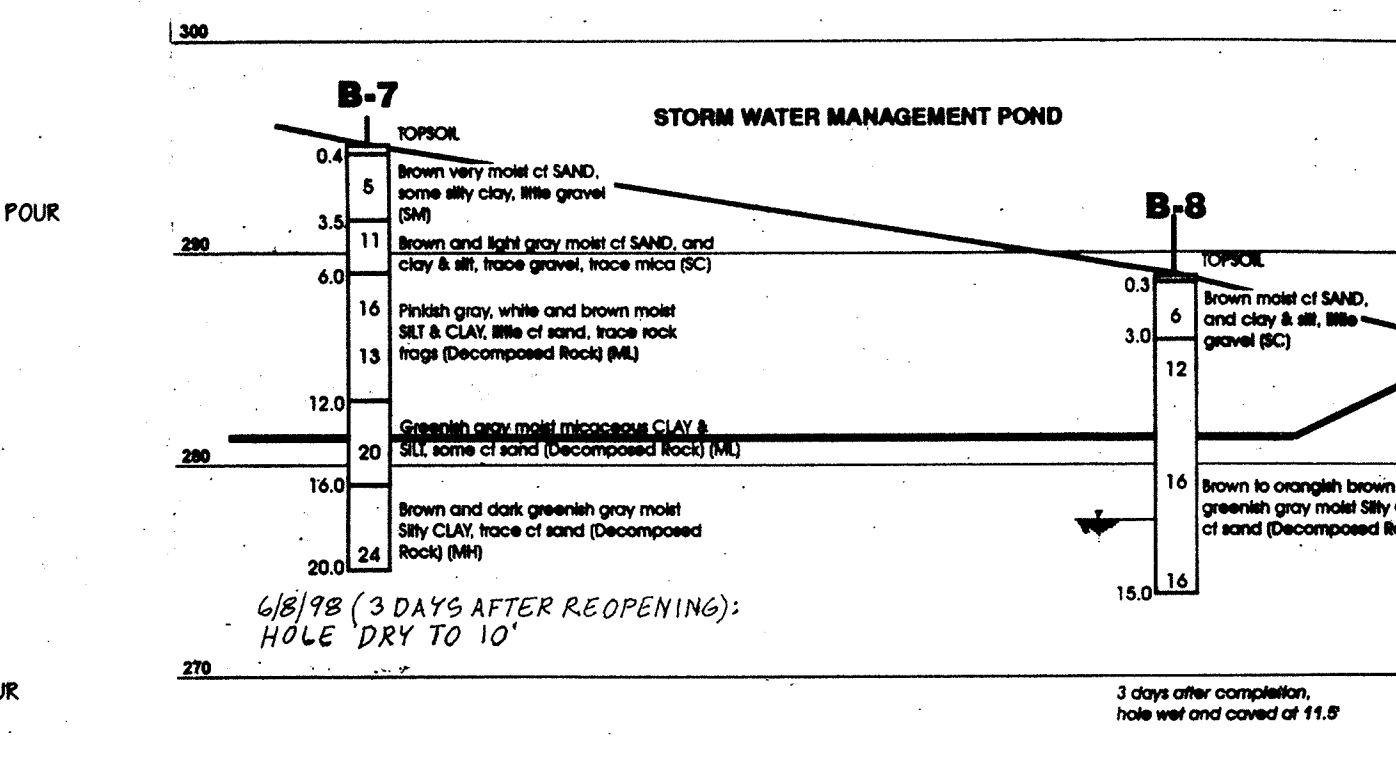
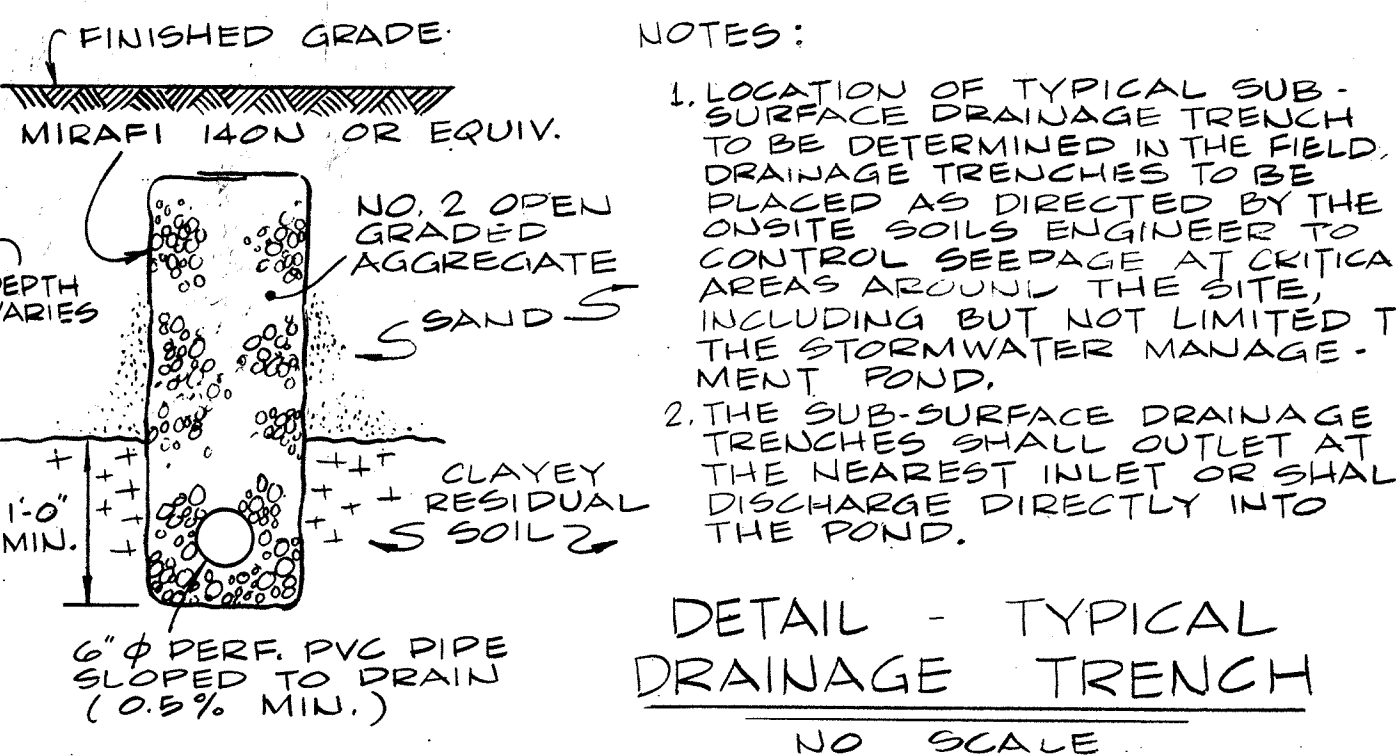
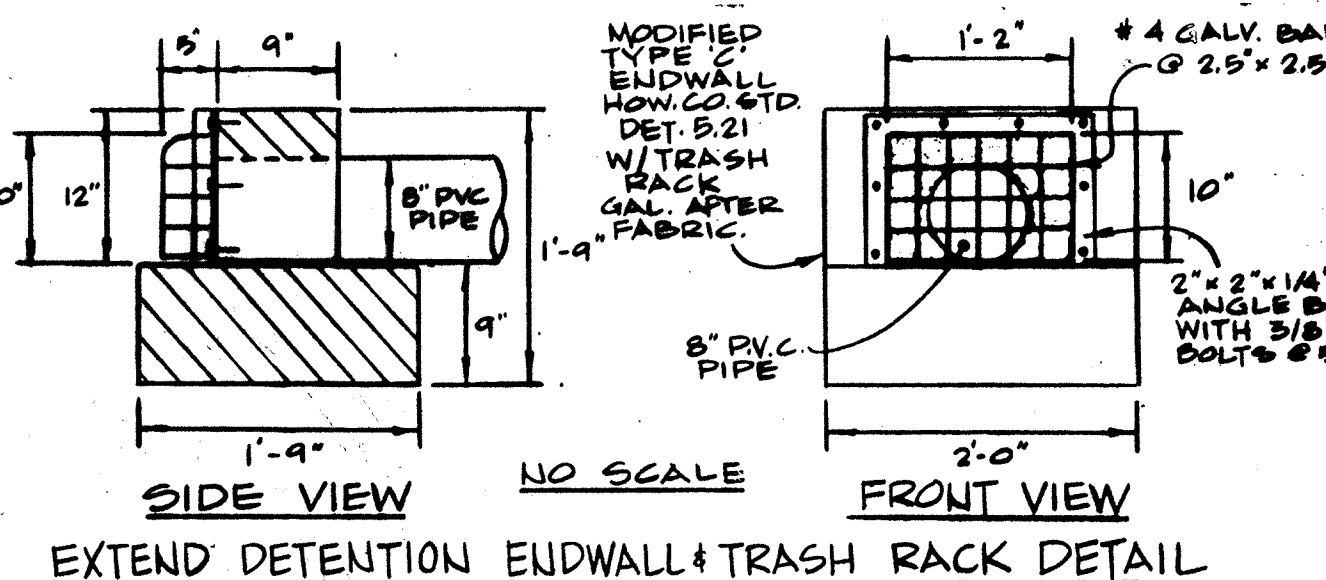


- NOTE:
- LOCATE 2 MIN. FROM ALL PIPE JOINTS.
 - ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS.
 - THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT.
 - COLLAR SHALL PROJECT A MIN. OF 3.0' FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.

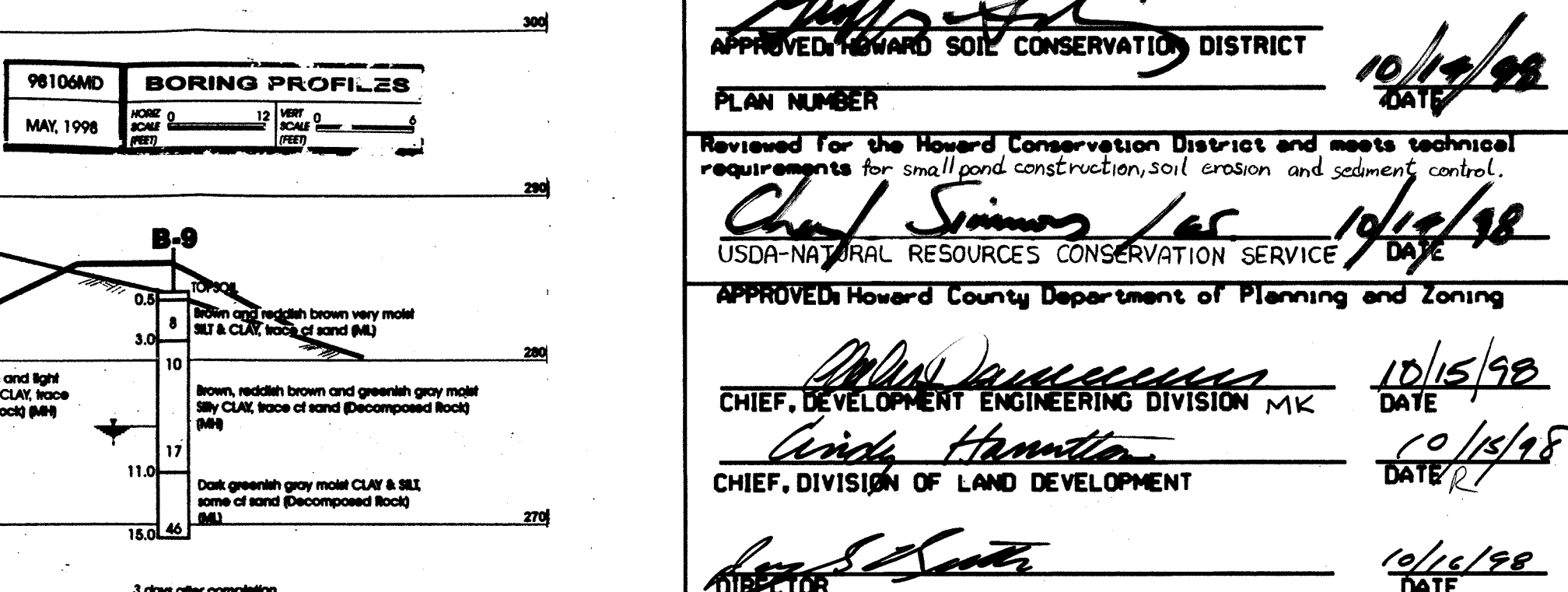
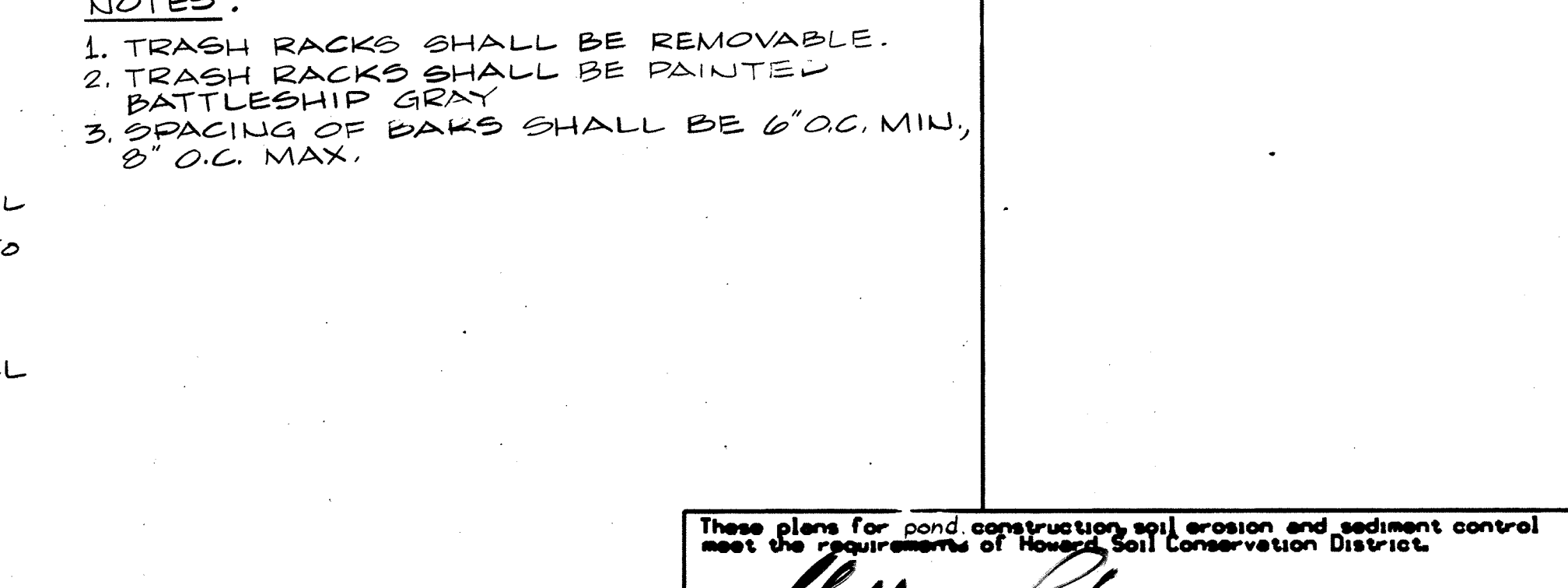
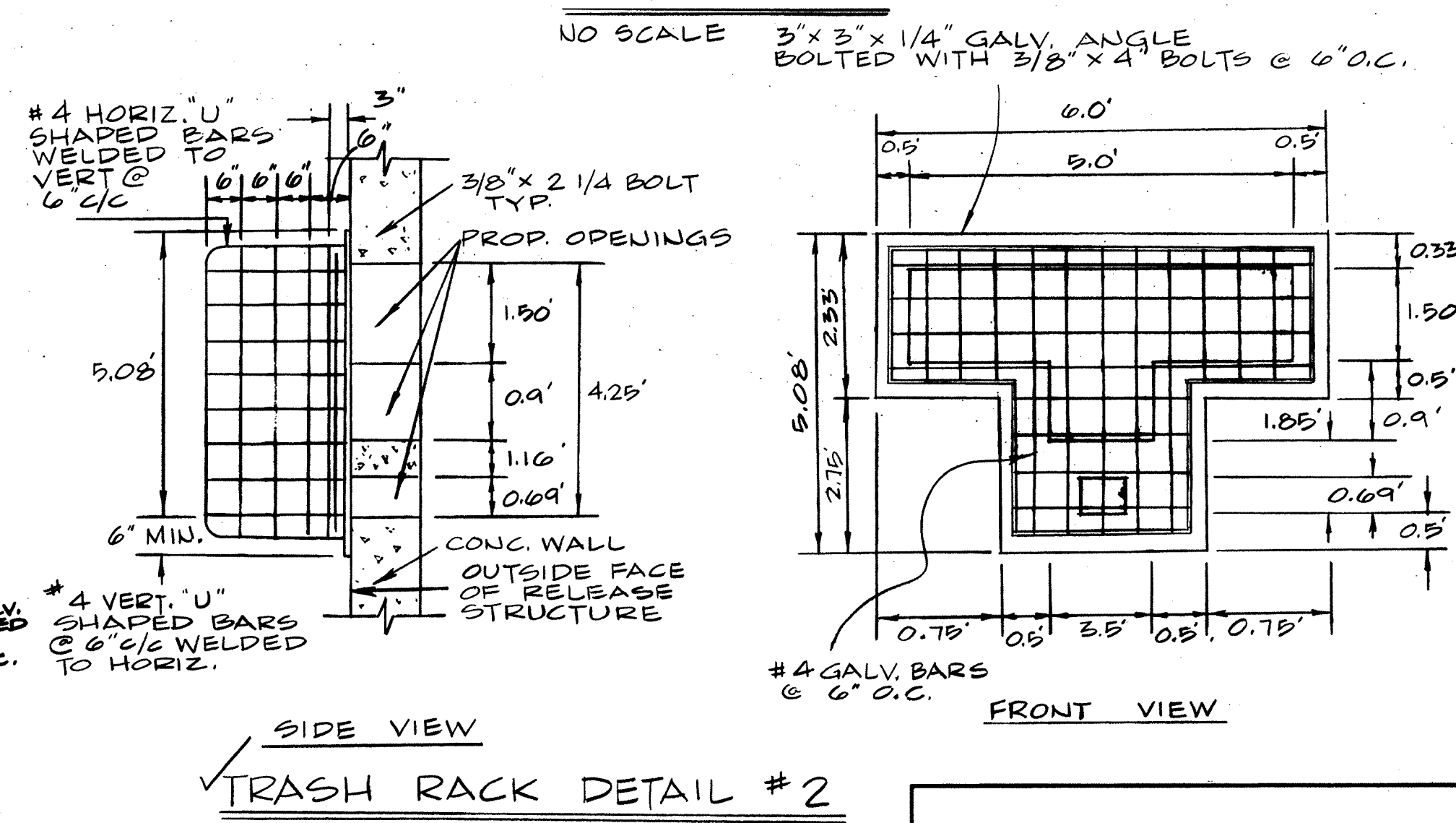
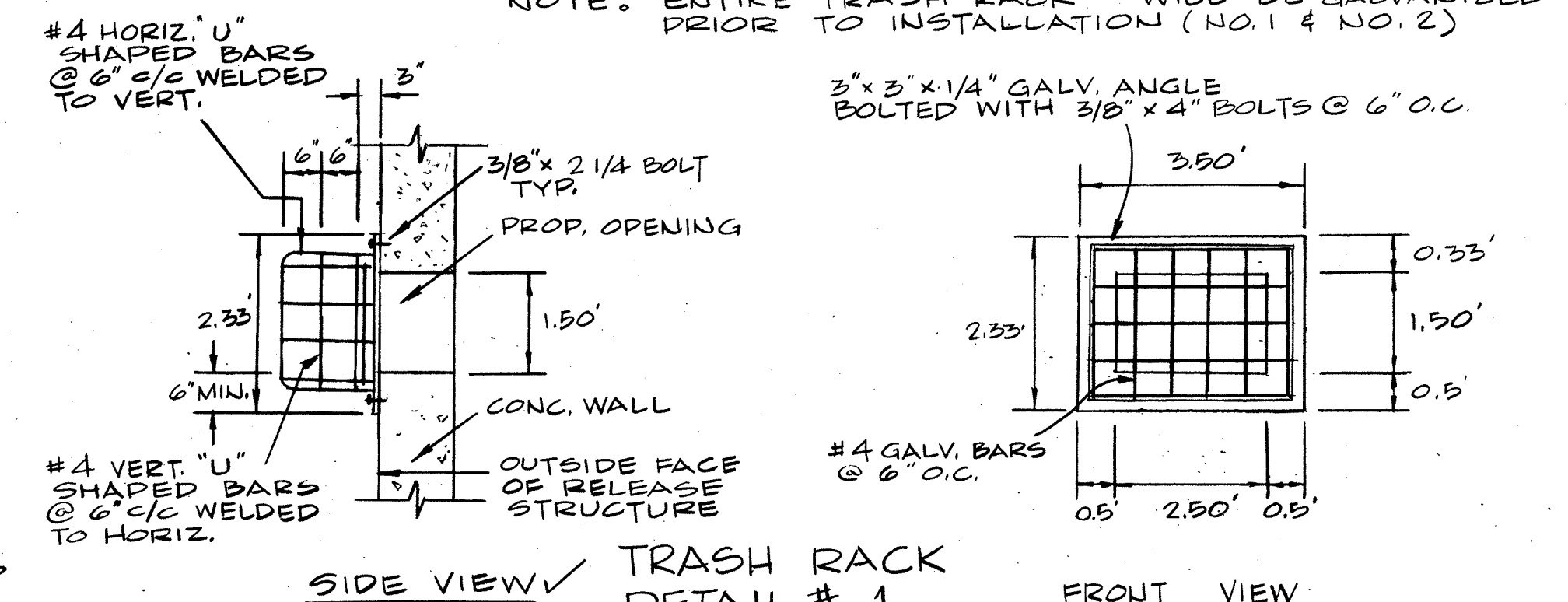


EXTENDED DETENTION POND DEWATERING DEVICE

- NOTES:
- PERFORATED PIPE SHALL HAVE METAL CAP WELDED TO OTHER END OF PIPE.
 - PERFORATED PIPE SHALL BE COVERED ON ALL SIDES WITH A MINIMUM OF #2 STONE - EXCEPT WHERE OTHERWISE NOTED.
 - CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO PREVENT EROSION AND WATER POLLUTION ARE MINIMIZED.
 - SET PERFORATED PIPE AT INVERTS SPECIFIED ON STORM WATER MANAGEMENT PLANS - PRINCIPAL SPILLWAY PROFILE.



- NOTE:
- LOCATE 2 MIN. FROM ALL PIPE JOINTS.
 - ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS.
 - THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT.
 - COLLAR SHALL PROJECT A MIN. OF 3.0' FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.



- NOTE:
- LOCATE 2 MIN. FROM ALL PIPE JOINTS.
 - ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS.
 - THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT.
 - COLLAR SHALL PROJECT A MIN. OF 3.0' FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

Civil Engineers and Land Surveyors

658 Kenilworth Drive, Suite 100

Towson, Maryland 21204

(410) 825-8120

ENGINEER CERTIFICATION:

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Engineer: *James A. Markle Jr.* P.E. # 11005

Name: **JAMES A. MARKLE JR.** Date: **7/1/98**

DEVELOPER CERTIFICATION:

I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Developer: *Stanley A. Link*

Name: **STANLEY A. LINK** Date: **3-19-98**

CONSULTANT'S HAZARD CLASS CERTIFICATION:

I certify that this pond meets all requirements for hazard class B or C. (Requirements as stated in the Soil Conservation Service - Maryland Standards and Specifications for Pond Code 378, November 1992). All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to Howard County Soil Conservation District.

Signature: *James A. Markle Jr.* P.E. # 11005

Name: **JAMES A. MARKLE JR.** Date: **7/1/98**

OWNER / DEVELOPER

CORPORATE GATESPRING II, LLC

8815 CENTRE PARK DRIVE, SUITE 400

COLUMBIA, MARYLAND 21045

(410) 730-9092

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
5-20	6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME: COLUMBIA GATEWAY

SECTION NAME: N/A

PARCEL: 5-20

PLAT: 12802 BLOCK: 1 ZONE: M-1

ELECT. DIST.: 6 CENSUS TRACT: 6067.03

WATER CODE: E06 SEWER CODE: 5333000

STORM WATER MANAGEMENT PROFILES

COLUMBIA GATEWAY PARCEL 5-20

COLUMBIA GATEWAY WOODLANDS II

"AS BUILT"

ELECTION DISTRICT: 6 SCALE: As Shown

HOWARD CO., MARYLAND SHT. 12 OF 13 DATE: MAY 01, 1998

SDP-99-01 P/N: 8656 6-29-98 NAME: 8656mmwmt01401